

First Trimester Abortion and Psychiatric Morbidity

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ABSTRACT

Background: Early pregnancy loss is a traumatic event following which clients may experience psychological morbidities. Mental illness is associated with multiple obstetric and social factors surrounding the period of pregnancy loss. The aim of this study was to find the prevalence of depression and anxiety before and after undergoing spontaneous or induced first trimester abortion and to analyze demographic and obstetric factors associated with it.

Methods: This is an observational study conducted at Kathmandu Medical College (KMC) for a duration of one year from September 2022 to August 2023. All clients with abortion were screened for psychiatric morbidity using the The Hospital Anxiety and Depression Scale (HADS). Each client was assessed at first hospital visit and then at two weeks and two months following abortion. Level of anxiety and depression was analyzed in relation to socio-demographic factors and the type of abortion.

Results: 171 clients with pregnancy loss were enrolled. Pre-abortion, severe anxiety was present in 6(13%) clients with spontaneous abortion. Pre-abortion, mild to severe anxiety was present in 31 (67.3%) clients and at two weeks and two months in 11 (23.9%) and 11 (23.9%) clients respectively. In clients undergoing induced abortion, varying levels of anxiety was present in 54(43.2%) pre-abortion, and 48(38.4%) and 54(43.2%) clients at two weeks and two months. Mild to moderate depression was seen in 21 (45.6%) among spontaneous abortion and 51 (40.8%) clients among induced abortion. Mean score on HADS decreased with time.

Conclusions: Anxiety and depression were common following early pregnancy loss. Rate of anxiety seems to decrease with time in spontaneous abortion but in induced abortion it remains persistent. Rate of depression tends to decrease with time for both types of abortion.

Keywords: Abortion; anxiety; depression; HADS; induced.

INTRODUCTION

Psychological morbidities are a noted complication following early pregnancy loss.¹ Mental illness is associated with multiple factors like marital status, parity, method of termination of pregnancy, past psychiatric history, social and cultural attitude, poor social support and history of previous therapeutic abortion. Evidence suggests that women undergoing induced abortion were more anxious and depressed.^{2,3} The Hospital Anxiety and Depression Scale (HADS) which is a validated tool in Nepali language, is used to assess psychiatric

morbidity.⁴ Compared to the general population, women who have an abortion obtain higher scores in the HADS scale after the abortion.⁵

Assessing level of anxiety and depression through HADS score may be used to better identify women who are at risk of negative psychological responses following abortion.

The aim of this study was to assess the level of depression and anxiety in women before and after spontaneous or induced first trimester abortion and to identify the

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demographic and obstetric factors associated with it.

METHODS

This is an observational study conducted at Kathmandu Medical College (KMC) for a duration of one year from September 2022 to August 2023. Ethical approval was taken from the Institutional Review Committee of the same institute before commencement of the study. (IRC Ref no: 09092022/04)

All clients attending KMC in reproductive age group of 15-45 years with spontaneous or induced abortion were enrolled in the study after taking informed consent. Convenience sampling technique was used and the sample size was calculated using incidence of 16.1 from a study done earlier,⁶ using the following formula: $n = \frac{Z^2 P (1 - P)}{d^2}$

Where n is the sample size, Z is the statistic corresponding to level of confidence 1.96 at 95% CI, d is precision=0.01, p=expected prevalence of 16%.

Thereby the calculated required minimum sample size was 162

$$1.96 \times 1.96 \times .16 (1-.16) / 0.05 \times 0.05 = 204$$

Clients with diagnosed preexisting psychiatric morbidities were excluded from the study. Patients with severe adverse event following abortion like failed medical abortion, excessive haemorrhage, sepsis, were also excluded from the study. Also, women who became pregnant again during follow up were excluded from the study.

Data was collected through one to one interview by the principal investigator. Confidentiality was maintained. Demographic data was collected in a pre-designed proforma. Age, education level, marital status, type of family, period of gestation, type of abortion (spontaneous/induced) and method of termination of pregnancy (medical/surgical) was noted.

The Hospital Anxiety and Depression Scale (HADS), which is a pretested and validated tool in Nepali language,⁴ was used to assess psychiatric morbidity. HADS comprises seven questions for anxiety and seven questions for depression. Anxiety and depression score was calculated and classified as mild for a score of 8-10, moderate for a score of 11-14 and severe for a score of

15-21.⁷

Each client was interviewed first at the time of admission. After the initial interview, women opting for medical abortion were given Mifepristone 200mg on the same day followed by Tab Misoprostol 800 micrograms sublingual after 36-48 hours taken as self medication. Those opting for surgical abortion and those with spontaneous abortion underwent manual vacuum aspiration by standard procedure under local anesthesia.

Each client was then followed up at two weeks and interviewed with the HADS tool. They were then called for next interview at two months. Those who did not come for follow up were interviewed through telephone.

Data was entered and analysed with SPSS version 21. Outcomes are presented as mean, standard deviation and percentages.

RESULTS

There were a total of 211 clients coming for abortion during the study period. Out of all clients receiving abortion services at the hospital, 202 cases were enrolled.

Nine clients were excluded from the study for pre existing psychiatric morbidity under medication (5), complication following abortion namely incomplete abortion with severe haemorrhage(1) and failed medical abortion(3).

Out of 202, 31 clients lost follow up, 9 at two weeks and 22 at two months. Both follow ups were completed by 171 clients so these cases were analysed in the study. Out of 171, 39 patients were followed up by phone at two months as they did not come to the hospital.

The mean age group of clients coming for abortion was 27.81 yrs (SD=5.32) with the mean period of gestation of 7.21 wks (SD=1.45). Clients with spontaneous abortion were 46 and 125 received services for induced abortion.

Table 1 shows the sociodemographic profile of clients undergoing abortion. Most women were from Brahmin/Chhetri ethnicity and were in the age group of 20-35 years. Most were Hindus with secondary level education. Clients were mostly married multigravidas.

Table 1. Sociodemographic profile of clients undergoing abortion (n=171).

	Spontaneous abortion (N=46)		Induced abortion (N=125)	
	Medical (n=14)	Surgical (n=32)	Medical (n=107)	Surgical (n=18)
Age group n(%)				
<20	1(7.2)	1 (3.2)	2 (1.9)	0
20-35	12 (85.7)	25 (78.1)	97 (90.1)	16 (88.9)
>35	1 (7.2)	6 (18.7)	8 (7.9)	2 (11.1)
Caste n(%)				
Dalit	4(28.5)	11 (34.3)	0	0
Janajati	0	0	47 (43.9)	11 (61.1)
Brahmin/Chettri	10 (71.5)	21 (65.7)	58 (54.2)	7 (38.9)
Others	0	0	2 (1.9)	0
Religion n(%)				
Hindu	10 (71.4)	25 (78.1)	94 (87.8)	18 (100)
Buddhist	1 (7.2)	1 (3.2)	5 (4.7)	0
Christian	1 (7.2)	1 (3.2)	2 (1.9)	0
Others	2 (14.2)	5 (15.6)	6 (5.6)	0
Education level n(%)				
Primary	0	0	13 (12.1)	6 (33.3)
Secondary	4 (28.5)	14 (43.8)	51 (47.7)	12 (66.7)
Bachelors	10 (71.4)	18 (56.2)	30 (28.1)	0
Masters	0	0	13 (12.1)	0
Marital status n(%)				
Married	12 (85.7)	27 (84.3)	101 (94.4)	16 (88.9)
Unmarried	2 (14.2)	5 (15.6)	6 (5.6)	2 (11.1)
Type of family n(%)				
Nuclear	10 (71.4)	18 (56.2)	72 (67.3)	5 (27.7)
Joint	4 (28.5)	14 (43.8)	35 (32.7)	13 (72.2)
Gravida n(%)				
Primi	4 (28.5)	10 (31.2)	29 (27.1)	2 (11.1)
Multi	10 (71.4)	22 (68.8)	67 (62.6)	14 (77.8)
Grand multi (>4)	0	0	11 (10.3)	2 (11.1)
Previous history of induced abortion (n=50)	7(35)	13	28	2
Period of gestation in weeks (Mean, SD)	7.73 (1.19)		7.02 (1.49)	
Reason for termination n(%)				
Medical condition	0	0	3	3
Career Plans	0	0	37	0
Complete Family	0	0	12	7
Contraception failure	2	3	19	0
Going abroad	3	2	25	0
Unplanned	2	5	5	7
Short spacing	0	0	6	0
Incomplete abortion	5	14	0	1
Missed abortion	2	8	0	0

At the time of abortion, anxiety was present in 85/171 (47.7%) women irrespective of the type of abortion. Depression was present in 40/171 23.3%.

Mild to severe anxiety was present in 31 (67.3%) clients with spontaneous abortion before utilization of abortion services and 11 (23.9%) clients at two weeks and another 11 (23.9%) at two months. Severe anxiety was present preabortion in 6(13%) women with spontaneous abortion.

In clients undergoing induced abortion, varying levels of anxiety was present in 54(43.2%) preabortion and 48(38.4%) and 54(43.2%) at two weeks and two months.

Mild to moderate depression was seen in 21 (45.6%) amongst spontaneous abortion and 51 (40.8%) amongst induced abortion. Prevalence of depression tends to decrease with time for both types of abortion.

Table 2. Anxiety and depression in women pre and post abortion. N=171

	Spontaneous n=46			Induced n=125		
	Pre abortion	At 2 weeks	At 2 months	Pre abortion	At 2 weeks	At 2 months
Anxiety level						
None	15 (32.6)	34 (73.9)	35 (76.0)	71 (56.7)	77 (61.7)	71 (56.8)
Mild (n=121)	25 (54.3)	3 (6.5)	6 (13.1)	22 (17.6)	44 (35.2)	21 (16.8)
Moderate (n=83)	0	9 (19.6)	5 (10.9)	32 (25.6)	4 (3.1)	33 (26.4)
Severe (n= 6)	6 (13.1)	0	0	0	0	0
Depression level						
None	31 (67.4)	44 (95.7)	42 (91.3)	100 (80.0)	111 (88.8)	113 (90.4)
Mild (n=67)	13 (28.3)	2 (4.3)	4 (8.7)	24 (19.2)	13 (10.4)	11 (8.8)
Moderate (n=5)	2 (4.3)	0	0	1 (0.8)	1 (0.8)	1 (0.8)
Severe (n=0)	0	0	0	0	0	0

Figure 1 shows that mean anxiety and depression score decreased with time.

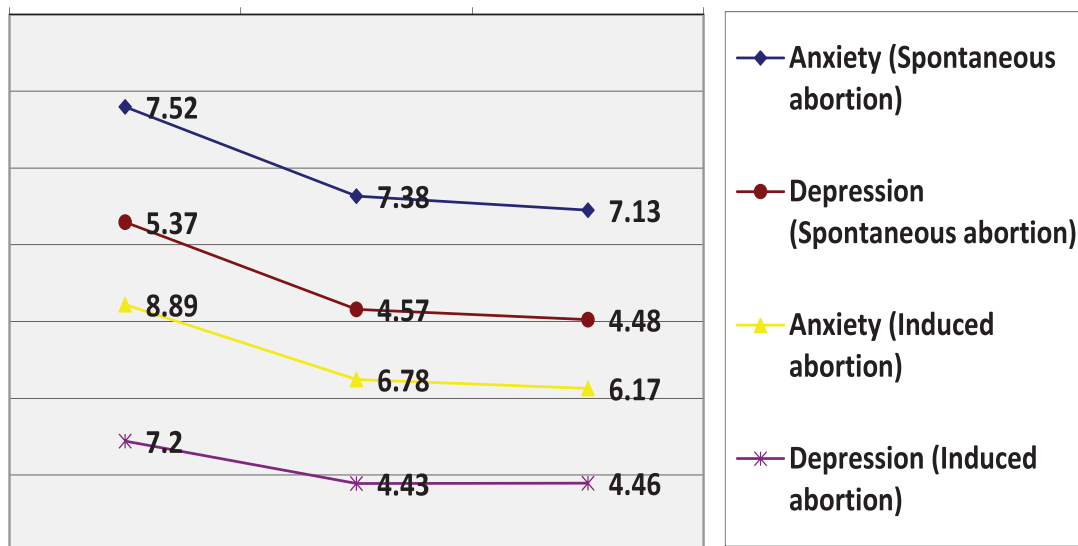


Figure 1. Comparison of mean anxiety and depression score pre and post abortion.

Table 3 shows that psychiatric morbidity is more common in clients of age group 20 to 34 years, in Brahmin/Chhetri caste and Hindu religion. Those that were married and living in a nuclear family had higher HADS score.

Table 3. Sociodemographic profile of women with anxiety and depression pre abortion.

Sociodemographic characteristics	Anxiety (HADS score >8) N=85	Depression(HADS score >8) N=40
Age group n(%)		
<20	4 (4.7)	0 (0)
20-34	73 (85.8)	31 (77.5)
>35	8 (9.4)	9 (22.5)
Casten(%)		
-Dalit	15 (17.7)	2 (5)
-Janajati	18 (21.1)	9 (22.5)
-Brahmin/Chettri	43 (50.6)	16 (40)
-Others	9 (10.6)	13 (32.5)
Religion n(%)		
-Hindu	74 (87.1)	36 (90)
-Buddhist	0 (0)	2 (5)
-Christian	2 (2.3)	2 (5)
-Others	9 (10.6)	0 (0)
Education Status n(%)		
-Primary	12 (14.1)	7 (17.5)
-Secondary	35 (41.1)	20 (50)
-Bachelors	36 (42.4)	13 (32.5)
-Masters	2 (2.4)	0
Marital Status n(%)		
-Married	72 (84.7)	36 (90)
-Unmarried	13 (15.3)	4 (10)
Type of family n(%)		
-Nuclear	61 (71.8)	22 (55)
-Joint	24 (28.2)	18 (45)

Table 4 shows that multigravida had more psychiatric morbidity. Clients with anxiety and depression had mean period of gestation of seven weeks.

Table 4. Obstetric profile of women with anxiety and depression pre abortion.

Obstetric characteristics	Anxiety (HADS score >8) N=85	Depression(HADS score >8) N=40
Gravida n(%)		
-Primi	30 (35.3)	4 (10)
-Multi	47 (55.3)	29 (72.5)
-Grand multi (>4)	8 (9.4)	7 (17.5)
History of previous abortion (n=50)	34 (68%)	16 (40)
Period of gestation Mean (SD)	7.4 (1.4)	7.8 (1.6)
Reason for termination n(%)		
Medical condition	3 (3.5)	0 (0)
Career Plans	2 (2.4)	0 (0)
Complete Family	19 (22.4)	14 (35)
Contraception failure	9 (10.6)	4 (10)
Going abroad	9 (10.6)	0 (0)
Unplanned	0 (0)	0 (0)
Short spacing	29 (34.1)	0 (0)
Incomplete abortion	12 (14.1)	18 (45)
Missed abortion	2 (2.4)	4 (10)

DISCUSSION

The goal of this study was to find the prevalence of depression and anxiety before and after undergoing spontaneous or induced first trimester abortion and to analyze the factors associated with it.

Prevalence of psychiatric morbidity is high in Nepali women and stressful life event like abortion adds to this risk.⁶ Psychiatric wellness during and after abortion depends on various social and demographic factors.

Psychiatric morbidity was common in clients of upper caste in the age group of 20-34 years. Anxiety and depression were common with higher HADS score before utilization of abortion services and the score showed decreasing trend at two weeks and two months post abortion.

The findings of this study shows that clients of 20-34 years had higher HADS score for both anxiety and depression. The reason for this is that the number of women utilizing abortion services mainly comprise of this age group. A nationwide cross sectional study in Nepal showed that HADS had an ascending trend significant after 35 years of age.⁸

Study show that legal availability of abortion services was associated with significant but slight decrease in anxiety in women aged 25-49 years when compared to countries where accessibility is limited.⁹ Nepal, since the past two decades, has legalized abortion and accessibility is not a problem especially for urban dwellers. This study being conducted at a tertiary center in a urban locality, prevalence of anxiety and depression is high. This leads to exploration of other informal barriers and social cultural and political factors as the cause of psychiatric morbidity in clients coming for abortion services.

Studies in Nepali population shows that women of both upper and lower caste report greater mental health problems than men.^{7,10} This study shows that women of upper caste have higher HADS score.

The findings of this study show that multigravidas with history of previous abortion were likely to have higher HADS score. This could be because recurrent pregnancies weather successful or failed has been associated with high prevalence of mental illness.¹¹

It has been discussed that in countries where illiteracy rate is high, education level cannot be taken as a determinant of mental illness.⁷ The findings of this study shows that higher level of education was associated

with higher HADS score. This study followed a cohort of women coming for abortion services and education level does make a difference in informed reproductive health choices.

The findings of this study show that women living in nuclear families had a higher prevalence of anxiety and depression. This is consistent with the mental health findings from Nepal which states that social support plays a strong protective role among women.⁶

Abortion is a common adverse pregnancy outcome experienced by women and is a cause of emotional distress. The abortion rate in Nepal was 42 per 1,000 women aged 15-49.¹² In view of such high numbers, mental health issues of these women is an under-researched area.

Women whose first pregnancy end up in abortion tend to have higher incidence of anxiety and depression when compared to women with live births. Nearly 20% of women with spontaneous abortion have symptoms of anxiety and depression and this effect lasts upto subsequent pregnancies.¹³

This study shows that mild to severe anxiety was present in 67.3% clients with spontaneous abortion and 43.2% in induced abortion. The findings also suggest that women tend to remain anxious in induced abortion at follow up but those with spontaneous abortion had decreased incidence of anxiety at two weeks and two months.

Studies have shown that women who were depressed at early post abortion period are likely to remain depressed a year later.^{14,15} In this study, mild to moderate depression was seen in 45.6% amongst spontaneous abortion and 40.8% amongst induced abortion. Prevalence of depression tends to decrease with time for both types of abortion.

The findings of this study suggests that there is a need of screening for psychiatric morbidities in women undergoing abortion.

A multicenter cohort study suggested that depression and anxiety were both present within a month of pregnancy loss and there was no significant difference between spontaneous and induced abortions for the same.¹ The findings of this study also suggest that though slight difference in prevalence for mental illness occur in different types of abortions mean anxiety and depression score decreases with time for both types of abortion.

The findings of the current study show that severe anxiety was present in 6(13%) clients with spontaneous abortion but not in a single client with induced abortion. This study had more number of clients coming for induced abortion. Prevalence of mental health issues is equal in spontaneous and induced abortion but there is implication in the society that induced abortion does not stand as a reason of grief and loss for the parents. This is more so for women. The fact that they were pregnant might not have been shared with the family or even partner because the abortion law of Nepal allows abortion with the consent of the pregnant women alone. Despite her autonomous decision, pregnancy loss does stand as a cause of emotional distress.

The key strengths of the current study is the consideration of mental health issues of women coming for first trimester abortion services which despite being a large number, is a neglected area of research in Nepal at present. However certain limitations should be borne in mind when evaluating its results. First, factors influencing mental health like gender equity, intimate partner violence, substance abuse, religious beliefs and cultural values and social support has not been assessed. Second, HADS is a tool which detects subjective manifestations of anxiety and depression and does not take into account somatic symptoms of distress. This may under estimate the actual prevalence of psychiatric morbidity. Third, this study has assessed for anxiety and depression for a short period of time of two weeks and two month so long term effects cannot be identified through this method. Sample size does match the requirement of sample size calculation but more number of clients especially in the spontaneous abortion group would give a clearer picture on psychiatric morbidities in both the groups.

Psychiatric wellness after abortion also depends on factors like accessibility and quality of services provided. The findings of this study could not establish a relation between psychiatric morbidity and cause of termination of pregnancy which was varied. Future studies could include these factors while assessing psychiatric morbidities.

CONCLUSIONS

Anxiety and depression was common following early pregnancy loss. It was more common in age group of 20 to 24 years, in married women and in primigravidas. Women undergoing abortion were more likely to have psychiatric morbidities immediate following abortion but this seems to be transient finding with a decreasing

prevalence over time. Abortions performed at a safe abortion service site, does not pose the risk of psychiatric morbidity in the long run.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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